

REMARKS

Claim rejections under 35 USC 101

Claims 17-20 have been rejected under 35 USC 101 because the claimed invention is directed to non-statutory subject matter. The Examiner has stated first that the claimed subject matter is not tangible. However, the claim is expressly limited to a *tangible* computer-readable medium. Therefore there is no way that the claimed subject matter cannot be considered tangible, insofar as the subject matter is *explicitly* claimed as being tangible.

Second, the Examiner states that it “is unclear how the claimed invention can have a means in the medium for utilizing a hardware approach.” (Office action, p. 2, para. 2.) Applicant responds in two ways. First, whether the invention is clear or not is not a proper basis on which to reject the claim under 35 USC 101. So long as a claim is directed to statutory subject matter, it satisfies 35 USC 101. This is the case here, where the claim is limited to a *tangible* computer-readable medium, and thus is necessarily statutory. Compare, for instance, 35 USC 112, second paragraph, which has a “primary purpose . . . to ensure that the scope of the claims is clear.” (MPEP sec. 2173.) Thus, if the Examiner is contending that it is unclear how a means in the medium can utilize a hardware approach, this issue is better presented in the context of 35 USC 112, not 35 USC 101.

By comparison, the inquiry under 35 USC 101 is limited to whether the claims as presented are directed to one of the four categories of statutory subject matter. For instance, section 2106.IV.A. notes that:

35 USC. 101 defines four categories of inventions that Congress deemed to be the appropriate subject matter of a patent: processes, machines, manufactures and compositions of matter. The latter three categories define “things” or “products” while the first category defines “actions.”

In the present situation, the claims in question are directed to a “manufacture,” particularly to an “article of manufacture” that includes a *tangible* computer-readable medium. As such, there can

be no question that these claims are statutory subject matter under 35 USC 101; whether the claims are unclear or not has no bearing on their being directed to statutory subject matter.

Nevertheless, second, those of ordinary skill within the art can readily appreciate how a means can be implemented in the medium for utilizing a hardware approach, such that the invention is clear. For instance, the tangible computer-readable medium may be a recordable data storage medium (per dependent claim 20), where a method may be implemented within the medium (per paragraph 25 of the patent application as filed). For example, those of ordinary skill within the art can easily recognize that the method may be implemented as one or more computer programs (i.e., as the means) stored on the computer-readable medium (such that the programs are implemented within the medium). Such a method may then use a hardware approach. It is noted, of course, that a method is a collection of functional steps or acts performed in a given order. This is encapsulated in claim 17, which recites means plus function language, such that the means within the medium is for performing a given function – “utilizing a hardware approach.”

For both of these reasons, Applicant submits that claims 17-20 are statutory under 35 USC 101.

Claim rejections under 35 USC 112 as to claims 1-10

Claims 1-10 have been rejected under 35 USC 112, second paragraph, as being indefinite. In particular, the Examiner states that the term “approach” in these claims is “a relative term which renders the claim indefinite.” Furthermore, the Examiner has stated that the “term ‘approach’ is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.” Applicant respectfully but firm disagrees with the Examiner.

First, the term “approach” is not a “relative” term. It is being used as a noun (i.e., not as a verb) in claims 1-10; Applicant surmises that this may be the basis of the Examiner’s potential

confusion as to how this term is being used in the claims. There are two different approaches delineated in claims 1-10: a “software approach to locking memory” and a “hardware approach to transactional memory.” The former is an approach to locking memory that is software in nature, due to the adjective “software.” The latter is an approach to transactional memory that is hardware in nature, due to the adjective “hardware.”

Furthermore, the online dictionary www.dictionary.com defines the noun “approach” as follows: “the method used or steps taken in setting about a task, problem, etc.: His approach to any problem was to prepare an outline.” The online thesaurus www.thesaurus.com relevantly provides the following synonyms to the noun “approach”: manner, method, procedure, and technique. Applicant notes that one of ordinary skill within the art uses the ordinary meaning of terms in the claims unless the specification provides a contrary definition. *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299, 53 USPQ2d 1065, 1067 (Fed. Cir. 1999) (“[W]ords in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning.”).

Applicant is using the noun “approach” within claims 1-10 consistent with its ordinary meaning as provided by the online dictionary www.dictionary.com and the online thesaurus www.thesaurus.com. The term “approach” is used to mean “the method used to set about a task,” and as such is a “manner, method, procedure, [or] technique” that is used to set about a task. The task in question as to the software approach is the task of locking memory. The task in question as to the hardware approach is the task of implementing or effecting transactional memory.

The Examiner has stated that the specification does not provide “a standard for ascertaining the requisite degree” of the term “approach.” However, there is no “degree” as to the noun “approach.” Applicant surmises that the confusion may lie in the Examiner’s interpretation of the term “approach” as a verb, such as “Bob approaches Bill,” where the degree in this example would be “how closely does Bob advance towards Bill.” In the usage of the

present claims, however, the term “approach” is not a relative term, and as such does not have any “requisite degree” that needs to be ascertained.

Furthermore, Applicant notes that the specification utilizes the terminology “approach” consistent with its ordinary meaning as a noun as the method used in setting about a task, a procedure, a manner, or a technique. Paragraph 9 of the patent application as filed, for instance, states that “[o]ne approach to ensuring that a number of transactions are not attempting to process the same memory at the same time is to use a software locking approach,” where the rest of paragraph 9 describes what such an software locking approach entails. Likewise, paragraph 10 of the patent application as filed states that “[a]nother approach to ensuring that a number of transactions are not attempting to process the same memory at the same time is to use a hardware transactional memory approach,” where the rest of paragraph 10 describes what such a hardware transactional memory approach entails. Therefore, the Examiner is incorrect in stating that “one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.”

Applicant notes that “a claim term that is not used or defined in the specification is not indefinite if the meaning of the claim term is discernible.” (MPEP sec. 2173.02, citing Bancorp Services, LLC v. Hartford Life Ins. Co., 359 F.3d 1367, 1372, 69 USPQ2d 1996, 1999-2000 (Fed. Cir. 2004)) Here, the meaning of the claim term “approach” is indeed discernible. The term is being used in relation to its ordinary meaning as a noun, as has been discussed above. Therefore, this term is definite under 35 USC 112, second paragraph.

The Examiner has suggested that Applicant replace the terminology “software approach” in the claims with “method using software” and the terminology “hardware approach” with “method using hardware”. However, this suggestion makes the claim language unclear. For example, the claim would read “a method using software to locking memory” and “a method using hardware to transactional memory,” both of which are incongruous. Applicant further notes that “if the language used by applicant satisfies the statutory requirements of 35 USC 112, second paragraph, but the examiner merely wants the applicant to improve the clarity or precision of the

language used, the claim must not be rejected under 35 USC 112, second paragraph, rather, the examiner should suggest improved language to the applicant.” (MPEP sec. 2173.02) In the present patent application, therefore, the rejection under 35 USC 112, second paragraph is improper, since the claim language already satisfies the statutory requirements of definiteness. Moreover, the Examiner’s suggested language renders the claim language unclear – for instance, the phrase “a method using hardware to transactional memory” does not make sense.

For all of these reasons, Applicant traverses the instant rejection under 35 USC 112, second paragraph.

Claim rejections under 35 USC 112 as to claims 11-16

Claims 11-16 have also been rejected under 35 USC 112, second paragraph, as being indefinite. The Examiner has stated that these claims “fail[] to particularly point out and distinctly claim the subject matter which applicant regards as the invention, because it does not make clear what is the end result if the execution of the code section is not successful.” Applicant respectfully disagrees.

The broadest scope of the invention of claims 11-16 is as follows, per claim 11. First, there is a processor that has transactional memory capability, including a pseudo-transactional memory capability that determines whether the transactional memory capability would have been successful. Second, there is a memory that stores a spin lock function to execute a code section by utilizing the transactional memory capability upon the transactional memory capability having satisfied a threshold based upon success of at least the pseudo-transactional memory capability.

Therefore, it does not matter whether or not the invention makes clear what the end result is if the execution of the code section is not successful. This is outside the scope of the claim. The scope of the subject matter of the claim is that the spin lock function stored in the memory executes a code section by utilizing the transactional memory capability of the processor upon the transactional memory capability having satisfied a threshold based upon success of at least the

pseudo-transactional memory capability of the processor. What happens if such code execution is successful or not is irrelevant to the claimed subject matter – that is, what happens if such code execution is successful or not is outside the scope of the claims, and therefore cannot affect the definiteness of the claims.

The relevant requirement of 35 USC 112, second paragraph, as stated in section 2171 of the MPEP, is that “the claims must particularly point out and distinctly define *the metes and bounds of the subject matter that will be protected by the patent grant.*” “The primary purpose of this requirement of definiteness of claim language is to ensure that the scope of the claims is clear so that the public is informed of the boundaries of what constitutes infringement of the patent.” (MPEP sec. 2173.) Under this governing standard, it is clear that the claims in question are definite under 35 USC 112, second paragraph. That the claim language does not specify what happens if the code execution is not successful is outside the metes and bounds of the claim language, and therefore outside the scope of the claims and thus does not affect definiteness.

Applicant respectfully submits in this respect that the Examiner is conflating claim scope with claim definiteness. The scope of the claims as presented is already definite, being clearly limited to a spin lock function stored in a memory to execute a code section by utilizing the transactional memory capability of the processor upon the transactional memory capability having satisfied a threshold based upon success of at least the pseudo-transactional memory capability of the processor. What happens if such code execution is not successful is outside this scope of the claims. The inquiry here is whether the scope of the claims as presented is definite or not – not whether other limitations could be added to the claims that would affect their scope.

Applicant notes that by conflating claim scope with claim definiteness, the Examiner appears to be equating indefiniteness with claim breadth. That is, the Examiner’s argument appears to be that because the scope of the claims in their breadth does not encompass what happens if code execution fails, then the claims are necessarily indefinite. However, section 2173.04 of the MPEP notes that:

Breadth of a claim is not to be equated with indefiniteness. If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 USC 112, second paragraph.

(Emphasis added; citations omitted) Thus, by stating that the scope of the claims does not delineate what happens if code execution fails, the Examiner is essentially stating that the claims are too broad in scope. However, broadness or breadth is not indefiniteness; so long as the scope of the subject matter embraced by the claims is clear, the claims comply with 35 USC 112, second paragraph, as noted above.

For all of these reasons, Applicant submits that claims 11-17 are definite under 35 USC, second paragraph.

Conclusion

Applicants have made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Mike Dryja, Applicants' Attorney, at 425-427-5094, so that such issues may be resolved as expeditiously as possible. For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,



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Date

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